

CLAIMS

What is claimed is:

1. A method for reducing sparkle artifacts in a liquid crystal imager, comprising the steps of:  
     gamma correcting a video drive signal; and  
     slew rate limiting at least a portion of said gamma corrected video drive signal.

2. The method claimed in claim 1, wherein said step of gamma correcting further comprises the step of producing an output containing a red gamma corrected video drive signal component, a blue gamma corrected video drive signal component, and a green gamma corrected video drive signal component.

3. The method claimed in claim 2, wherein at least one of said gamma corrected video drive signal components is slew rate limited.

4. The method claimed in claim 1, comprising the further steps of:  
     deinterlacing said video drive signal to provide a deinterlaced video signal;  
     color space converting said deinterlaced video signal; and  
     frame rate multiplying said color space converted video signal,  
     said further steps taking place prior to gamma correcting said frame rate multiplied video drive signal.

5. The method claimed in claim 3, comprising the further steps of independently selecting slew rate limits for

each of said gamma corrected video drive signal components.

6. An apparatus for reducing sparkle artifacts in a liquid crystal imager, comprising:

a device for gamma correcting a video drive signal for providing a gamma corrected video drive signal; and  
a slew rate limiter for slew rate limiting said gamma corrected video drive signal.

7. The apparatus claimed in claim 6, further comprising:

a video display system for a liquid crystal imager having a circuit for reducing sparkle artifacts in said liquid crystal imager, said circuit comprising:

a color space converter for color space converting said video drive signal, wherein said gamma correcting device gamma corrects said color space converted video drive signal.

8. The apparatus claimed in claim 7, said circuit further comprising means for frame rate multiplying said color space converted video signal prior to said frame rate multiplied video signal being gamma corrected.

9. The apparatus claimed in claim 8 wherein said gamma corrected video drive signal further comprises a red gamma corrected video drive signal component, a blue gamma corrected video drive signal component, and a green gamma corrected video drive signal component.

10. The apparatus claimed in claim 9, further comprising means for independently selecting slew rate limits for each of said gamma corrected video drive signal components.

11. The apparatus of claim 6, wherein said slew rate limiter further comprises a means for assuring that successive output signals from said slew rate limiter will not vary by more than a predetermined slew rate.

12. The apparatus of claim 11, wherein said slew rate limiter further comprises:

an algebraic unit for providing a difference signal representative of a difference between said gamma corrected video drive signal and a preceding gamma corrected slew rate limited output;

a latch for storing said preceding gamma corrected slew rate limited output;

at least one comparator for determining whether said difference exceeds said predetermined slew rate; and

a second algebraic unit for adding the output from said at least one comparator to a brightness level of a previous slew rate limited output pixel to generate a next new pixel.

13. The apparatus of claim 12, wherein said at least one comparator comprises a first comparator for determining whether said difference signal is greater than a predetermined positive slew rate and a second comparator for determining whether said difference signal is more negative than a predetermined negative slew rate.

14. The apparatus of claim 13, wherein the absolute value of said predetermined positive slew rate and the absolute value of said predetermined negative slew rate are equal.

1        15. The apparatus of claim 12, wherein said slew rate  
 2        limiter further comprises a multiplexer that uses the  
 3        most significant bit of said difference signal as a  
 4        control input for selecting an output among said first  
 5        comparator and said second comparator.

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